

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-3. (canceled)

4. (currently amended) A composition of matter comprising a modified form of an Aequorea wild-type GFP polypeptide, wherein the amino acid sequence of said modified form of an Aequorea wild-type GFP polypeptide is at least 95% homologous to the amino acid sequence of SEQ ID NO:2 and ~~A composition according to claim 3, wherein the modified form of the wild-type GFP sequence~~ comprises a replacement of Ser at a position corresponding to position 202 in the wild-type GFP sequence by Phe and a replacement of Thr at a position corresponding to position 203 by Ile and wherein, upon oxidation and cyclization of amino acid residues in the modified form corresponding to positions 65 to 67 of wild-type GFP polypeptide sequence (SEQ ID NO:2), a fluorescent polypeptide having two main excitation peaks, with increased fluorescence exhibited at a shorter-wavelength peak of the two main excitation peaks as compared with a corresponding polypeptide of the wild-type GFP polypeptide sequence is formed.

5. (canceled)

6. (currently amended) A composition of matter comprising a modified form of an Aequorea wild-type GFP polypeptide, wherein the amino acid sequence of said modified form of an Aequorea wild-type GFP polypeptide is at least 95% homologous to the amino acid sequence of SEQ ID NO:2 and ~~A composition according to claim 5, wherein the modified form of the wild-type GFP sequence~~ comprises a replacement of Ile at a position corresponding to position 167 of the wild-type GFP sequence by Val or Thr and wherein, upon oxidation and cyclization of amino acid residues in the modified form corresponding to positions 65 to 67 of wild-type GFP polypeptide sequence (SEQ

ID NO:2), a fluorescent polypeptide having two main excitation peaks, with increased fluorescence exhibited at a longer-wavelength peak of the two main excitation peaks as compared with a corresponding polypeptide of the wild-type GFP polypeptide sequence is formed.

7. (currently amended) A composition of matter comprising a modified form of an Aequorea wild-type GFP polypeptide, wherein the amino acid sequence of said modified form of an Aequorea wild-type GFP polypeptide is at least 95% homologous to the amino acid sequence of SEQ ID NO:2 and ~~A composition according to claim 5,~~ wherein the modified form of the wild-type GFP sequence comprises a replacement of Ser at a position corresponding to position 65 of the wild-type GFP sequence by Thr, a replacement of Met at position 153 with Ala, and a replacement of Lys at position 238 with Glu and wherein, upon oxidation and cyclization of amino acid residues in the modified form corresponding to positions 65 to 67 of wild-type GFP polypeptide sequence (SEQ ID NO:2), a fluorescent polypeptide having two main excitation peaks, with increased fluorescence exhibited at a longer-wavelength peak of the two main excitation peaks as compared with a corresponding polypeptide of the wild-type GFP polypeptide sequence is formed.

8. (canceled)

9. (currently amended) A composition of matter comprising a modified form of an Aequorea wild-type GFP polypeptide, wherein the amino acid sequence of said modified form of an Aequorea wild-type GFP polypeptide is at least 95% homologous to the amino acid sequence of SEQ ID NO:2 and ~~A composition according to claim 8,~~ wherein the modified form of the wild-type GFP sequence comprises a replacement of Tyr at a position corresponding to position 66 of the wild-type GFP sequence by Phe, His or Trp and wherein, upon oxidation and cyclization of amino acid residues in the modified form corresponding to positions 65 to 67 of wild-type GFP polypeptide

sequence (SEQ ID NO:2), a fluorescent polypeptide with fluorescence exhibited at a shorter wavelength as compared with a corresponding polypeptide of the wild-type GFP polypeptide sequence is formed.

10. (currently amended) A composition according to claim 8 9, wherein the modified form of the wild-type GFP sequence comprises a replacement of Tyr at a position corresponding to position 66 of the wild-type GFP sequence by His and a replacement of Tyr at position 145 with Phe.

11. (currently amended) A composition according to claim 8 9, wherein the modified form of the wild-type GFP sequence comprises a replacement of Tyr at a position corresponding to position 66 of the wild-type GFP sequence by Trp, a replacement of Asn at position 146 by Ile, a replacement of Met at position 153 by Thr, a replacement of Val at position 163 by Ala, and a replacement of Asn at position 212 by Lys.

12. (currently amended) A composition according to claim 8 9, wherein the modified form of the wild-type GFP sequence-comprises a replacement of Tyr at a position corresponding to position 66 of the wild-type GFP sequence by Trp, a replacement of Ile at position 123 by Val, a replacement of Tyr at position 145 by His, a replacement of His at position ~~1~~ 148 by Arg~~1~~, a replacement of Met at position 153 by Thr, a replacement of Val at position 163 by Ala, and a replacement of Asn at position 212 by Lys.

13. (canceled)

14. (currently amended) A composition of matter comprising a modified form of an Aequorea wild-type GFP polypeptide, wherein the amino acid sequence of said modified form of an Aequorea wild-type GFP polypeptide is at least 95% homologous to the amino acid sequence of SEQ ID NO:2 and ~~A composition according to claim 13,~~

~~wherein the modified form of the wild-type GFP sequence comprises a replacement of Ser at a position corresponding to position 65 of the wild-type GFP sequence by an amino acid selected from the group consisting of Ala, Cys, Thr, Leu, Val and Ile and wherein, upon oxidation and cyclization of amino acid residues in the modified form corresponding to positions 65 to 67 of wild-type GFP polypeptide sequence (SEQ ID NO:2), a fluorescent polypeptide with enhanced fluorescence as compared with a corresponding polypeptide of the wild-type GFP polypeptide sequence is formed .-~~

15. (original) A composition according to claim 14, wherein the amino acid is Cys or Thr.

16-23. (canceled)

24. (new) A composition according to any one of claims 4, 6, 7, 9, or 15, further comprising at least one amino acid substitution selected from the group of neutral substitutions at positions corresponding to positions 3, 76, 99, 105, 115, 225, and 238 of wild-type GFP polypeptide sequence (SEQ ID NO:2) consisting of K3R, D76G, F99I, N105S, E115V, T225S, and K238E.